GOVERNMENT OF INDIA
SCIENCE AND TECHNOLOGY
LOK SABHA

UNSTARRED QUESTION NO:4703
ANSWERED ON:25.04.2000
GENETIC ENGINEERING AND TISSUE CULTURE
P.D. ELANGOVAN

Will the Minister of SCIENCE AND TECHNOLOGY be pleased to state:

(a) the steps taken by the Government to improve scientific research in the field of Genetic Engineering and Tissue culture;

(b) the details of animal and plant species to be developed through Genetic Engineering and Tissue culture;

(c) the details of ongoing projects in this field and the funds allocated for these projects during the last three years; and

(d) the details of new projects being launched/likely to be launched alongwith the foreign funded projects?

Answer

MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY

(SHRI BACHI SINGH RAWAT)

(a), (b) & (c) : The Department of Biotechnology has given major thrust to the application of Genetic Engineering and Tissue Culture techniques in the areas of crop improvement for enhancing productivity, nutritional quality and pest and disease resistance. Similarly, tissue culture techniques have been extensively researched in case of forest trees, horticulture and plantation crops, medicinal and aromatic plants and mulberry. To improve scientific research and expertise, several R&D projects, multi-institutional network projects and training programmes have been implemented. In the area of crop biotechnology, 15 R&D proejcts, 2 multi-institutional projects for development of transgenic plants in major crops i.e. cotton, rice, wheat, pigeonpea, chickpea, mungbean, rapeseed and mustard, tomato, cabbage and banana have been taken up. Besides several research leads, transgenic plants of mustard, mungbean, rice, cotton and tomato for hybrid seed production and disease resistance have already been developed. Centres of plant molecular biology in various universities and institutions have been established. A national containment/quarantine facility for imported transgenic planting material has been approved. Recently an autonomous institute-National Centre for Plant Genome Research has been set up in New Delhi.

In the area of tissue culture, 8 projects have been implemented in Medicinal and Aromatic plants and 41 projects in the area of forest trees/horticulture and plantation crops/spices during the last 3 years for protocol development, regeneration through tissue culture of elite planting material. In additon, two micropropagation parks in Pune and New Delhi for large scale production of tissue culture plants, three hardening units and one satellite sentre for North-East have been established.

About Rs.29.00 crores have been allocated for the above activities during the last three years.

In case of animals, genetic engineering research was initiated on mice, rabbits, goats, carp and zebra fish for development of transgenic animal models to express proteins of therapeutic importance, anthrax vaccine development, ovine growth hormone production and control of stray dog population. Besides several research leads already available, two transgenic animal model facilities have been established. About Rs. 5.37 crores have been allocated during the last 3 years.

Details have been given in the Annual Report 1999-2000.

(d) : Under the Indo-Swiss co-operation in biotechnology 13 projects are being launched during the year 2000-2001 in the areas of improvement of wheat through genetic engineering and marker assisted breeding as well as development and application of biofertilisers and biopesticides for increasing productivity of wheat and pulses. The projects are being funded on cost sharing basis between the Government of India and the Government of Switzerland.